Updated Washington County Construction Design Standards

Summary of Differences from the Current Standards

Section 1 (Introduction) and throughout:

1. Clarified throughout the specifications that the "County Representative" (Public Works Director or his representative) is the person designated to act for and in behalf of Washington County with regards to design and construction. If any minor variance or clarification to the specifications is requested, then the "County Representative" will make those determinations. (Throughout)

2. Reduced the mandatory warranty period for public improvements in a development from two years to one year to match State law. Some exceptions to this limitation are still allowed due to unusual climatic conditions, very poor soil conditions orprevious poor performance of a contractor. (1.25)

3. Made the specifications more consistent by including numbers in both numerical form and written out for clarity. (Throughout)

4. Increased the minimum asphalt thickness on our roads to 3 inches from 2-1/2 inches, while eliminating the requirement for a "prime-coat" of oil. This should make for better roads as well as be easier to construct.

5. Added the requirement for developers to attend the Washington County Staff Meeting to coordinate needed utility requirements and require a preconstruction meeting with the contractor and Public Works Department prior to any construction.

6. Added the allowable hours of work to be from dawn to dusk. (1.21)

7. Clarified the process of final inspection and acceptance of work. (1.27-1.31)

Section 2 General Requirements:

8. Clarified the required depth of waterlines throughout the county based on elevation. (2.2.4)

9. Clarified the format, content and detail required in the construction drawings. (2.2)

10. Clarified that all utilities must be installed to the boundary of the subdivision (2.1)

11. Added specifications for secondary water systems. (2.2.5)

12. Added the requirement to show all utilities on the construction drawings including power, telephone, cable TV, natural gas, culinary water, secondary water and sewer and clarified where these lines should be installed within the roads and utility easements. (2.2.9)

13. Revised the number of sets of construction drawings required to be submitted for review and for approval. (2.2.10)

14. Clarified the inspection, testing, and quality control requirements. (2.3)

15. Added the requirement for Record Drawings (As-built drawings) to be submitted in both paper and electronic format. (2.4)

16. Added general traffic control requirements. (2.5.1)

17. Added sections 2.6 through 2.13 to address cooperation between contractors, cooperation with other utilities, construction staking, use of explosives, protection of property and landscaping, survey monuments, hazardous materials, and construction sequencing. (2.6 through 2.13)

Section 3 Design Standards:

18. Added the APWA Manual of Standard Specifications as a supplement to our standards. (3.1)

19. Added AASHTO "A Policy of Geometric Design of Highways and Streets" and the Utah Departments of Transportation (UDOT) Standards and Specifications as supplements to our standards. (3.2)

20. Added a section on roadway network design criteria. (3.2.2)

21. Revised the maximum grades for streets to match the zoning ordinance. (Table 3.1)

22. Combined the road designations or arterial and major arterial. (Table 3.1)

23. Changed the minimum street grade from 0.50% to 0.75%. (3.2.4.1)

24. Clarified the road improvement requirements. (3.2.3)

25. Added minimum distances for driveways to be located away from intersections. (Table 3.2)

26. Increased the minimum distance between intersections and made those distances dependant on the road classification. (3.2.4.3)

27. Clarified the design volume (number of vehicle trips) to be used for each road classification. (3.2.4.4)

28. Reduced the maximum cul-de-sac length from 1600' to 600'. (3.2.4.5)

29. Added design criteria for roadways concerning design speeds, sight distance, alignments, superelevation, deceleration lanes, and driveways. (3.2.4.8 to 3.2.4.17)

30. Clarified and formalized the structural pavement design procedure. (3.2.5)

31. Encouraged clustering of mail boxes and require minimum clear zones. (3.2.6)

32. Expanded and clarified the requirements for a Geotechnical (soils) Report. (3.3)

33. Require a drainage and flood control plan and report on all commercial developments and other developments that exceed one-acre in area. The new specifications require adherence to drainage design criteria with regard to streets, storm drains, culverts, bridges, open channels, storage facilities, floodplains, erosion control, irrigation ditches, and water quality control. Major hydraulic structures would need to be designed for the 100-year flood event rather than the current requirement of the 25-year flood event. (3.4)

34. Public Works will review the sanitary sewer design and construction within the public right-of-way, however Ash Creek Special Service District and the Washington County

Water Conservancy District will be the sewer authorities and so our specifications will be basically match theirs. (3.5)

35. Added a section on utility minimum clearances. (3.5.6)

36. Added a section on suspended crossings. (3.5.7)

37. Added a section on pressure (force) sewer mains. (3.5.8)

38. Clarified that all culinary water flow design criteria must conform to the State of Utah Rules for Public Drinking Water Systems. (3.6.2)

39. Clarified where the minimum pressure is measured. (3.6.1)

40. Clarified the minimum depth of waterlines to be 3 feet below subgrade and at least 1 foot below frost line. (3.6.3)

41. Changed the minimum water main size to 8" diameter from 6" diameter to meet state law. (3.6.3)

42. Changed the maximum distance between valves from 1200 feet to 1000 feet. (3.6.4)

43. Added design criteria and a standard drawing for water pressure reducing valves and vaults. (3.6.5)

44. Clarified location and spacing of fire hydrants with the new requirement for sidewalks. (3.6.6)

45. Changed the requirement to require that each building or lot be served by a separate water service line and meter. (3.6.8.C)

46. Added requirement for "tracer wire" for all waterlines for locating purposes. (3.6.8.I)

47. Clarified valve locations. (3.6.8.J)

48. Clarified when a network hydraulic analysis is required and how it will be conducted. (3.6.9)

49. Added a design section for secondary water (irrigation or wastewater reuse). (3.7)

50. Require showing the design of other utility systems (natural gas, power, telephone and cable T.V.) on the construction drawings and gave direction on where those lines should be located. (3.8)

51. Added a section on traffic standards requiring a traffic impact study on new developments which generate 100 or more trips during the peak hour. (3.9.2)

52. Clarified the section on survey monument standards directing how and where they are installed. (3.10)

Section 4 Construction Standards:

53. Added a section on survey requirement for construction. (4.2)

54. Clarified the section on Quality Control for the testing of earthwork. (4.3.3)

55. Deleted clay sewer pipe and ductile iron sewer pipe as acceptable types of sewer pipe. (4.4.1.1)

56. Allow corrugated steel pipe for storm drains on a case-by-case basis subject to testing and appropriate coatings. (4.4.1.2.C)

57. Changed the minimum ductile iron class water pipe from Class 52 to Class 51 to match the criteria of most municipalities. (4.4.1.4.C)

58. Added HDPE pipe as an acceptable water main pipe. (4.4.1.4.E)

59. Require approval of the applicable water company for some pipe types and other unusual design criteria. (Throughout)

60. Clarified pipe fittings requirements (4.4.1.4.G)

61. Changed the requirement for butterfly valves from 8" to 12". (4.4.1.4.J)

62. Added a section on meter box and lid requirements. (4.4.1.4.K.4)

63. Added section on marking wire requirements. (4.4.1.4.L)

64. Added a section on pressure reducing valve requirements. (4.4.1.4.N)

65. Added a section on the Megalug joint restraint system. (4.4.1.4.O)

66. Added restriction of having a maximum of 200 feet of open trench at any one time and that trenches should not be left open over night. (4.4.2.2)

67. Revised backfill material specifications to allow for no rocks larger than 3" diameter (Table 4.5)

68. Revised the requirement for line and grade between manholes to match area municipalities. (4.4.2.5.A)

69. Added a section on the setting of bends, tees, crosses, and reducers. (4.4.2.5.C)

70. Added a section on the plugging of dead-end waterlines. (4.4.2.5.D)

71. Added miscellaneous water installation criteria. (4.4.2.5. E through M)

72. Do not allow compaction of backfill by jetting or flooding 4.4.2.6.C.5)

73. Changed the maximum allowable open trench from 400 feet to 200 feet. (4.4.2.7)

74. Added sections for dry taps and wet tap for water mains (4.4.2.10)

75. Added section requiring submittal of the test results and certificates of compliance for water system testing. (4.4.3.3.C)

76. Added recycled aggregate materials (RAM) to our specifications (4.5)

77. Added section designating the criteria for construction staking. (4.5.2)

78. Added section on grade control system. (4.5.3)

79. Clarified requirements for the geotechnical investigation. (4.5.4)

80. Added tolerances for grade of subgrade and roadbase. (4.5.5.2)

81. Added criteria for subbase gradation and composition requirements (4.5.6 and Table 4.9)

82. Removed pay factor criteria for road base and asphalt from our specifications and replaced it with a pass-fail criteria based on job-mix gradation. (4.5.7)

83. Removed the requirement for prime coat but left in the specifications for it if approved by the County Representative. (4.5.8)

84. Eliminate the need for a fogseal coat on the asphalt when ½" asphalt mix is used. (4.5.10)

85. Allow reclaimed asphalt pavement (RAP), but restrict its use to no more than 15% of the asphalt mix. (4.5.10.1)

86. Clarified that engineers must use the "Marshall Method of Mix Design" for asphalt. (4.5.10.1)

87. Added section on shipment of asphalt material. (4.5.10.3)

88. Added section on hydrated lime for asphalt mixtures. (4.5.11)

89. Limited the amount of soft or organic matter in the asphalt. (4.5.12)

90. Revised the dense-graded asphalt aggregate gradation table to have band limits rather than tolerances. (Table 4.13)

91. Added sections for asphalt storing and shipping. (4.5.13 through 4.5.15)

92. Added section on surface preparation for asphalt overlays. (4.5.16)

93. Added sections for asphalt installation equipment. (4.5.18 through 4.5.19)

94. Revised the dates when asphalt cannot be placed from December 15 through February 15 in the old specification to November 1st to April 30th and set the minimum temperature to 50 degrees. (4.5.20)

95. Added section on open-graded asphalt wearing courses. This would not generally be required. (4.5.23)

96. Revised the testing requirements for subbase, roadbase, RAM, and asphalts. (4.5.24)

97. Added a section on chip seal aggregate quality control. (4.6.2)

98. Added the requirement to have a loader and power broom on-site for chip seal projects. (4.6.3.5 and 4.6.3.6)

99. Added a section on asphalt emulsion slurry construction methods. (4.7.4)

100. Revised pozzolan to Class F from class N, limited its maximum replacement of cement to 15% and changed its replacement ration to 1.25 to 1. Additional testing may be required if compressive strengths show inconsistencies. (4.8.1.1.E)

101. Revised maximum distance between expansion joints fro curb and gutter to 150 feet from 450 feet. (4.8.2.3.D.2)

102. Revised maximum distance between contraction jointing for curb and gutter to 10 feet from 12 feet. (4.8.2.3.D.3)

103. Added requirement to wait at least 7 days to backfill against concrete. (4.8.2.3.G)

104. Added section on weather limitations for concrete. (4.8.2.3.I)

105. Revised the section on quality control of concrete to eliminate a "pay factor" and specify when and how tests are to be made for acceptance. (4.8.3)

106. Changed the tack oil from MC-70 to SS-1H and added requirement for 3" thick minimum paving for repairs. (4.9.3)

Section 5 Signing and Pavement Markings:

107. Added section on traffic signs. (5.2)

108. Referenced the pavement markings to follow the requirements of the Manual of Uniform Traffic Control Devises. (5.3)

109. Revised the minimum painting air temperature to 40 degrees. (5.3.3)

110. Added sections on temporary markings and raised pavement markings. (5.3.4 and 5.3.5)